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12 CITY OF SAN BUENAVENTURA

13 BEFORE THE CALIFORNIA  
14 STATE WATER RESOURCES CONTROL BOARD  
15

16 In the Matter of the Petition of

17 THE CITY OF SAN BUENAVENTURA FOR  
18 REVIEW OF THE CALIFORNIA REGIONAL  
WATER QUALITY CONTROL BOARD--LOS  
19 ANGELES REGION, MARCH 6 2008  
HEARING, ORDER NO. R4-2008-0011  
20 (NPDES PERMIT NO. CA0053651, CI NO.  
21 1822)

Petition No.:

**PETITION FOR REVIEW AND  
REQUEST TO BE HELD IN ABEYANCE**

[Water Code, § 13320(a) and  
23 Cal. Code Regs., § 2050 et seq.]

Date Petition Filed: April 7, 2008

1           The City of San Buenaventura (“City”) hereby timely files this Petition for Review (“Petition”)  
2 and Request to be Held in Abeyance. The City wishes to preserve its right to challenge the California  
3 Regional Water Quality Control Board—Los Angeles Region’s (“Regional Board”) final copper effluent  
4 limits in Order No. R4-2008-0011 (NPDES Permit No. CA0053651, CI No. 1822) (“Permit”) imposed  
5 on the City’s effluent discharge from its Ventura Water Reclamation Facility (“VWRF”) at the Regional  
6 Board’s Permit adoption hearing on March 6, 2008.

7           The Regional Board failed to comply with both state and federal law when it issued a new  
8 copper limits for discharges from the VWRF (“new copper effluent limits”) that are more stringent than  
9 federal law requires, technologically infeasible,<sup>1</sup> and more stringent than required to protect the  
10 beneficial uses designated for the receiving waters of the Santa Clara River Estuary (“SCRE”). The new  
11 copper effluent limits are: (1) not supported by substantial evidence in the record, (2) violate the  
12 requirements of California Water Code section 13241, (3) violate United States Environmental  
13 Protection Agency (“EPA”) procedures for developing and implementing Water Quality Based Effluent  
14 Limits (“WQBEL”), and (4) will result in administrative civil liabilities and future, escalating Regional  
15 Board enforcement proceedings because “non-experimental” currently available treatment technology is  
16 not available for compliance with the new, very low copper effluent limits during cold months, while, at  
17 the same time, attainment of the new copper limits is not necessary to protect, and will not appreciably  
18 improve the health of the SCRE.

19           From 2002 to 2005 the City completed a series of three studies of the SCRE’s water and biology  
20 at the direction of Regional Board staff and pursuant to EPA guidance and the State Implementation  
21 Plan (“SIP”). The studies were designed with Regional Board staff approval to determine whether to  
22 apply freshwater or saltwater criteria for metals, and to determine the site-specific objectives for copper.  
23 Among other things, the studies concluded that freshwater criteria would adequately protect the  
24 beneficial uses of the SCRE, since the SCRE is dominated by freshwater and brackish organisms with a  
25 low tolerance for saltwater conditions, and saltwater organisms are present in the SCRE only on a  
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27 <sup>1</sup> Current, proven technologies cannot achieve the new limits under cold weather conditions. There  
28 may be experimental new technologies capable of meeting the new limits. However, they are  
unproven at this time, and the City has requested that it be given time to study the experimental  
technologies before being required to comply with the new limits.

1 temporary, opportunistic basis. Furthermore, even if the far more stringent saltwater criteria apply, the  
2 bioavailability of copper in the SCRE is low, and site-specific criteria derived from the samples using  
3 methods that meet or exceed EPA guidance are, in fact, fully protective of even the most sensitive  
4 marine organism present in the SCRE.

5       Instead of relying on these studies or requesting further study between 2005 and 2008, for the  
6 first time in 2008 the Regional Board computed the copper effluent limits for the VWRf by applying the  
7 lowest single Water Effects Ration (“WER”) that could be calculated from the 2005 data to the far more  
8 stringent saltwater criteria. Regional Board staff acknowledged the current technological infeasibility of  
9 complying with the new, more stringent limits, and the likelihood that the VWRf would be out of  
10 compliance approximately 25% of the time. The City requested that the Regional Board issue a Time  
11 Schedule Order (“TSO”) to allow the City time to come into compliance with the new, more stringent  
12 limits insofar as it is technologically feasible to do so using experimental new technologies.  
13 Nevertheless, the Regional Board refused to issue a TSO even though staff acknowledged the current  
14 technological infeasibility of complying with the new, more stringent limits. Despite all evidence to the  
15 contrary and repeated requests supported by further evidence, the Regional Board failed to reconsider its  
16 decision to use saltwater criteria or its refusal to issue a TSO to allow the City time to meet the far more  
17 stringent limits, and failed to properly consider overwhelming scientific evidence in the record  
18 supporting alternative, fully protective and technologically attainable copper limits suggested by the  
19 City’s scientific studies.

20       At the direction of the Regional Board and in consultation with Regional Board staff, the City is  
21 pursuing a technical review of the new copper effluent limits and experimental copper treatment  
22 technologies with the hope that technologically feasible and scientifically supported copper limits can be  
23 incorporated into the Permit without review by the California State Water Resources Control Board  
24 (“State Board”). Thus, ***the City requests that this Petition be held in abeyance until further notice.***  
25 (Cal. Code Regs., tit. 23, § 2050.5, subd. (d).)

26       The City reserves the right to: (a) present a full memorandum of points and authorities in support  
27 of this Petition, (b) request that the Regional Board prepare the administrative record, (c) supplement the  
28 existing record with new information introduced during the technical review meetings with the Regional

Board staff and (d) request a hearing to present evidence available that was not considered by the Regional Board or was improperly excluded or otherwise not considered.

**1. PETITIONER** (Cal. Code Regs., tit. 23, §2050, subd. (a)(1))

The City of San Buenaventura's contact mailing address, telephone number and email address are as follows:

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**2. ACTION TO BE REVIEWED** (CAL. CODE REGS., TIT. 23, § 2050, SUBD. (A)(2))

The City seeks review of the new copper effluent limits imposed on the City by the Regional Board in Order No. R4-2008-0011 (NPDES Permit No. CA0053651, CI NO. 1822) on March 6, 2006 (attached as Exhibit "A").

**3. DATE OF ACTION** (CAL. CODE REGS., TIT. 23, § 2050, SUBD. (A)(3))

The Regional Board approved the Permit and a related Time Schedule Order No. R4-2008-0012 ("TSO No. R4-2008-0012") at a public hearing on March 6, 2008. The Permit and TSO No. R4-2008-0012 became effective immediately.

**4. STATEMENT OF REASONS** (Cal. Code Regs., tit. 23, § 2050, subd. (a)(4))

As explained more fully in the Summary Statement of Points and Authorities below, the Regional Board failed to comply with both state and federal law when it issued new copper effluent limits that are more stringent than federal law requires, "non-experimental" currently available treatment technology is not available for to meet the new copper limits in cold weather, and the new copper limits are overprotective of the organisms that inhabit the SCRE.

Petitioner requests that the petition be held in abeyance pursuant to California Code of Regulations, title 2050.5, subdivision (d) and reserves the right to supplement this Petition with submission of a more detailed statement of reasons.

1 **5. MANNER IN WHICH PETITIONER IS AGGRIEVED** (Cal. Code Regs., tit. 23, § 2050,  
subd. (a)(5))

2 If the Regional Board does not alter the new copper effluent limits, the City will be subject to  
3 scientifically unsupported and technologically infeasible effluent limits that are more stringent than  
4 required under the Federal Clean Water Act, California Porter-Cologne Act and California State Water  
5 Resources Control Board (“State Board”) Policy. Because “non-experimental” currently available  
6 treatment technology is not available for compliance with the new copper effluent limits, the City will  
7 inevitably be exposed to administrative civil liability penalties and potential increased progressive  
8 enforcement activities by the Regional Board if the new copper effluent limits are not altered to comply  
9 with applicable state and federal law. Unnecessarily low limitations increase the likelihood of  
10 enforcement, litigation and civil and criminal penalties, without a meaningful improvement in water  
11 quality or beneficial use.

12 **6. REQUESTED ACTION** (Cal. Code Regs., tit. 23, §§ 2050, subd. (a)(6).)

13 The City requests that the State Board amend the Permit to include new copper effluent limits to  
14 conform with State Board’s *Policy for Implementation of Toxic Standards for Inland Surface Waters,*  
15 *Enclosed Bays and Estuaries of California* (the “SIP”), by incorporating site specific scientific studies  
16 used to derive, in accordance with EPA guidance and procedures, scientifically supported copper  
17 effluent limits of 12 micrograms per liter (“µg/L”) (monthly average maximum effluent concentration)  
18 and 18 µg/L (daily maximum effluent concentration). In the alternative, the City requests that the State  
19 Board remand the permit to the Regional Board with specific instructions to:

- 20 1. Weigh the scientific studies submitted to the Regional Board and/or cited in written and  
21 oral comments of the City and other experts, and discount comments and testimony that  
22 lacks scientific foundation;
- 23 2. Comply with the federal Clean Water Act, and EPA procedures and guidance for  
24 WQBEL development; or consider California Water Code section 13241 factors,  
25 including economic costs and benefits, water quality conditions of the receiving waters,  
26 and available control measures in establishing a new copper effluent limits;
- 27 3. Issue a Time Schedule Order (“TSO”) to reflect technologically achievable copper limits  
28 to cover the anticipated non-compliance period during the pendency of this appeal.

Petitioner also requests that this matter be held in abeyance until further notice pursuant to California Code of Regulations, title 23, section 2050.5, subdivision (d). Petitioner reserves the right to (a) provide a full memorandum of points and authorities in support of this petition, (b) request that the Regional Board prepare the administrative record, (c) supplement the existing record with new information introduced during the technical review meetings with the Regional Board staff, and (d) request a hearing to present evidence available that was not considered by the Regional Board or was improperly excluded or otherwise not considered.

**7. STATEMENT OF POINTS AND AUTHORITIES** (Cal. Code Regs., tit. 23, § 2050, subd. (a)(7))

See the Summary Statement of Points and Authorities below, beginning at p. 5. Because the City requests that this Petition be held in abeyance during ongoing discussions with Regional Board staff to resolve the copper limit at issue, this Petition only includes a summary of the points and authorities in support of the City's position.

The City reserves the right to present a full statement of points and authorities in support of this Petition.

**8. REGIONAL BOARD NOTIFICATION** (Cal. Code Regs., tit. 23, § 2050, subd. (a)(8))

A copy of this Petition has been sent to the Regional Board.

**9. THE CITY RAISED THE COPPER LIMIT BEFORE THE REGIONAL BOARD ISSUED ORDER NO. R4-208-0011** (Cal. Code Regs., tit. 23, § 2050, subd. (a)(9))

The City contested the new copper effluent limits and presented evidence in support of its position to the Regional Board both in writing and in oral testimony during the entire Permit review period and before the close of the March 6, 2008 Public Hearing.

As noted above, the City is pursuing a technical review of the new copper effluent limits and experimental copper treatment technologies with Regional Board staff with the hope that a technologically feasible and scientifically supported copper limits can be incorporated into the Permit without review by the State Board. Thus, the City requests that this Petition be held in abeyance until further notice. (Cal. Code Regs., tit. 23, § 2050.5, subd. (d).) However, because ongoing discussions may raise new issues (for example, measures needed to address any adverse water quality affects of

experimental copper treatment technologies) or require that further information to be developed regarding the copper limits (for example, scientific information regarding critical water quality conditions for SCRE aquatic life), the City also reserves the right to supplement the record with additional evidence not presented to the Regional Board before or during the March 6, 2008 Public Hearing.

**10. REQUEST TO HOLD PETITION IN ABEYANCE AND RESERVATION OF RIGHTS**  
(Cal. Code Regs., tit. 23, § 2050.5, subd. (d))

THE CITY HEREBY REQUESTS that this matter be held in abeyance until further notice. Petitioner reserves the right to (a) provide a full memorandum of points and authorities in support of this petition, (b) request that the Regional Board prepare the administrative record, (c) supplement the existing record with new information introduced during the technical review meetings with the Regional Board staff or with evidence essential for the State Board's review, and (d) request a hearing to present evidence available that was not considered by the Regional Board or was improperly excluded or otherwise not considered. To reduce the City's and Regional Board's administrative burden during the ongoing discussions with the Regional Board staff, the City also reserves the right to provide a list of persons known to have an interest in the subject matter of the petition and reserves the right to request that the Regional Water Quality Control Board prepare the record.

**SUMMARY STATEMENT OF POINTS AND AUTHORITIES**

**1. INTRODUCTION.**

On March 6, 2008, the Regional Board approved the Permit that contained new copper effluent limits that are more stringent than required by law, lower than necessary to protect sensitive fish and wildlife habitat, and lower than achievable with currently available, non-experimental, and established water treatment technologies. The City and its scientist and engineers have been working with the Regional Board to study the source of copper and to test and implement technologies to reduce copper levels in the effluent stream. The City implemented an established "iron salt" metal treatment technology in 2006 that caused the Regional Board to conclude, "The quality of the effluent with respect to metal concentrations has greatly improved," and to extend the (then in place) TSO during the

pendency of the Permit renewal process. (Tentative TSO and Revised Tentative TSO R4-2006-0092, dated November 1, 2006 and November 30, 2006 at p. 10). Due to the installation of the “iron-salt” metal treatment technology, the copper levels in the VWRf discharge comply with site-specific freshwater copper effluent limits computed pursuant to EPA guidance (i.e., 14.57 micrograms per liter (“µg/L”) [daily maximum] and 7.285 µg/L [monthly average] at 50 mg/L hardness),<sup>2</sup> and with site-specific saltwater copper effluent limits derived using Water Effect Ratio calculations per the SIP and EPA guidance (i.e., 17.8 µg/L [daily maximum] and 11.5 µg/L [monthly average]) for the SCRE.<sup>3</sup>

Notwithstanding these efforts and the level of copper treatment attained, the Regional Board issued the Permit with new copper effluent limits of 8.8 µg/L (daily maximum) and 4.2 µg/L (monthly average) that: (1) are not supported by substantial evidence in the record, (2) violate State Board policy and the requirements of California Water Code section 13241, (3) violate the federal Clean Water Act as well as EPA guidance and procedures for developing and implementing Water Quality Based Effluent Limits (“WQBEL”), (4) are more stringent than required to protect, or appreciably improve conditions for aquatic life and habitat within the SCRE, and (5) will result in administrative civil liabilities and future, escalating Regional Board enforcement proceedings because no non-experimental technology exists to allow for compliance with the new copper limits during cold weather.

While the City will continue to work with the Regional Board to resolve these issues regarding the new copper effluent limits, the City files this Petition for Review—to be held in abeyance, pending further discussions with Regional Board staff—seeking relief from the new copper effluent limits. The City specifically requests State Board to adopt site-specific and scientifically based copper effluent limits in accordance with State Board and EPA policy. The copper limits should be no lower than 18 µg/L (daily maximum) and 12 µg/L (monthly average). In the alternative, the City requests that the State Board remand the permit to the Regional Board with specific instructions to:

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<sup>2</sup> It is important to note that the water in the VWRf’s effluent is harder than 50 mg/L, as is the water entering the SCRE from the Santa Clara River. Thus, these values may result in effluent limits that are higher because the salinity of the effluent and SCRE is higher than 50 mg/L.

<sup>3</sup> VWRf tertiary-treated effluent is first discharged to a series of freshwater treatment ponds for nutrient polishing, and then is released to the SCRE.



- 1 1. Weigh the scientific studies submitted to the Regional Board and/or cited in written and oral  
2 comments of the City and other experts, and discount comments and testimony that lack  
3 scientific foundation;
- 4 2. Comply with the federal Clean Water Act, and EPA procedures and guidance for WQBEL  
5 development, or consider California Water Code § 13241 factors, including economic costs and  
6 benefits, water quality conditions of the receiving waters, and available control measures in  
7 establishing a new copper effluent limits; ; and
- 8 3. Issue a TSO to reflect technologically achievable copper limits to cover the anticipated non-  
9 compliance period during the pendency of this appeal.

10 The information below provides the background of the facility and its environs and provides a brief  
11 overview of the scientific studies conducted by the City to derive the copper limit that is protective of  
12 the SCRE.

## 13 **2. FACTUAL BACKGROUND.**

### 14 **A. The Ventura Water Reclamation Facility.**

15 The City operates the VWRF, a publicly-owned tertiary wastewater treatment facility with a  
16 design capacity of 14 million gallons per day (“MGD”). The VWRF discharges tertiary treated  
17 wastewater to the a series of freshwater treatment ponds that polish the effluent before it is released by  
18 way of a side channel to the SCRE under NPDES Permit No. CA0053651 (“Permit”). The VWRF is  
19 located on the north bank of the Santa Clara River in the City of San Buenaventura. It currently  
20 discharges approximately 7 to 10 MGD of treated municipal wastewater into the SCRE (9 MGD average  
21 annual) and reclaims approximately 0.7 MGD for landscape irrigation use.

### 22 **B. The Santa Clara River Estuary.**

23 The Santa Clara River watershed covers approximately 1600 square miles and is one of the  
24 largest watersheds in southern California. The lower Santa Clara River at the river mouth is  
25 characterized as a “coastal lagoon” because it forms a shallow, freshwater-dominated lagoon that is  
26 seasonally closed-off from the Pacific Ocean. The coastal lagoon extends approximately 1 mile  
27 upstream of the river mouth and approximately 3,000 feet upstream of the Harbor Boulevard Bridge  
28 when fully flooded. The northern side of the lagoon is bounded by the VWRF and Union Oil storage

1 tank facility on the west side of Harbor Boulevard and Olivas Park golf course and agricultural fields to  
2 the east of Harbor Boulevard. The lagoon is bounded on the south (from west to east) by McGrath State  
3 Beach (west of Harbor Boulevard) and agricultural fields on the east side of Harbor Boulevard.

4 The SCRE and its surrounding marshes and riparian areas constitute the 160 -acre Santa Clara  
5 River Estuary Natural Preserve. Under most conditions, the SCRE is a freshwater to brackish estuary  
6 with a sand berm that separates it from the ocean, allowing several feet of water to accumulate behind  
7 the berm to form the lagoon. The berm periodically breaches when the water in the estuary overtops the  
8 sand berm, or when storm events (typically in the winter) generate sufficient flows to breach the berm.  
9 When the berm is breached, the estuary is temporarily exposed to tidal influence and increases in  
10 salinity.

11 Seasonally, the lower Santa Clara River may vary between a daily flooded and drained braided  
12 channel when there is an open connection to the ocean (typically winter) and a closed to semi-closed  
13 lagoon behind a beach barrier (typically summer). The duration and extent of these conditions in the  
14 SCRE are controlled by the interplay of a variety of physical processes and human activities that control  
15 the construction or breaching of the sand berm.

16 Discharge from the VWRF makes up a portion of water that historically flowed to the estuary,  
17 but that is now appropriated for uses upstream. Anecdotal evidence indicates that perennial flows  
18 existed in lower river, even during dry months, providing water to the estuary and marshes that extended  
19 well upstream. However, beginning in the late 1800s, intensive development of water resources in the  
20 basin reduced groundwater reserves and altered surface flows in the river. Upstream appropriations of  
21 water for agricultural use and managing salt-water intrusion have reduced annual flows to the estuary by  
22 as much as 75 percent. For example, between 1928 and 2001, no natural river flows reached the estuary  
23 in approximately 70 percent of the dry weather months between June and October. Thus, in dry months,  
24 flows from the VWRF are an important component of freshwater inputs to the estuary, accounting for up  
25 to 100% of fresh water entering the estuary.

26 Under current conditions, the discharge is responsible for berm breaching that occurs during the  
27 summer months, improving lagoon circulation and flushing. Many southern California lagoons undergo  
28 periods of hypoxia due to elevated nutrients, eutrophication and high temperatures during the summer

1 months. This can result in fish kills and plant die-offs, which are indicative of poor water quality  
2 conditions that reduce the ability to support the aquatic community. Minimizing such adverse  
3 conditions are of concern in terms of maintaining viable populations of the federally threatened  
4 tidewater goby that are resident in the SCRE. To the extent that VWRf discharge comprises most of the  
5 freshwater flows reaching the estuary during dry months, it provides most of the impetus required to  
6 initiate the breaching process.

7 In the process of filling the lagoon, VWRf discharge not only provides water of high quality, it  
8 creates a differential in the hydraulic pressure gradient such that subsurface flows are directed towards  
9 McGrath Lake. Otherwise, these flows (including groundwater and seepage from agricultural  
10 operations) would be towards the lagoon, degrading water quality in the lagoon.

11 The results of multiple studies that the City performed with Regional Board review and approval  
12 suggest that the estuary is currently operating as a viable, albeit highly modified, ecological unit.  
13 Moreover, there is no evidence that discharge from the VWRf is responsible for any negative impacts  
14 on the estuary. In fact, the discharge is in a unique position in terms of enhancing beneficial uses,  
15 particularly during dry weather periods. Overall, water and sediment quality are generally good, and  
16 habitat conditions appear to be relatively stable.

### 17 **C. The Scientific Basis for Site Specific Objectives for Copper.**

18 In 1996, due to concerns over effluent copper concentrations, the City conducted a Source  
19 Control Study for copper. This study identified that the major source of copper in the wastewater  
20 effluent was from corrosion of the potable water supply system piping serving residential, commercial,  
21 institutional and other water and sewer customers. In 2000, the Regional Board issued the City an  
22 updated NPDES permit. The 2000 permit included requirements for copper concentrations based on the  
23 California Toxics Rule ("CTR"), which provides that the most stringent water quality criteria shall be  
24 applied in calculating numerical limitations (saltwater criteria in the case of copper) in cases where the  
25 discharge is to an estuary that is subject to a combination of freshwater and marine influences.<sup>4</sup> The

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26 <sup>4</sup> On May 18, 2000, the United States Environmental Protection Agency ("EPA") promulgated  
27 numeric criteria for priority toxic pollutants for the state of California known as the California  
28 Toxics Rule ("CTR"), codified at 40 C.F.R. § 131.38. On March 2, 2000, State Board adopted the  
*Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and*  
*Estuaries of California* (Order No. 2000-015), which prescribes toxic pollutant limits to implement

1 CTR limit for copper based on a discharge to the marine environment with no dilution is 3.1 µg/L. At  
2 the time, VWRF effluent had an average concentration in excess of 10 µg/L copper. Therefore, the City  
3 recognized that the VWRF could not meet the CTR saltwater aquatic life criterion for copper. The City  
4 asked Regional Board staff to recommend the application of the freshwater limit of 52 µg/L for copper  
5 to the VWRF effluent.

6 Subsequently, the Regional Board issued Time Schedule Order (“TSO”) No. 00-144 giving the  
7 City until October 12, 2002, to achieve compliance with the CTR saltwater copper limit. The TSO  
8 required the City to comply with interim limits based on the CTR freshwater aquatic criterion. TSO  
9 No. 00-144 further required the City to conduct a series of studies to determine the actual bioavailability  
10 of copper in the SCRE, to decide if saltwater or freshwater criteria should apply to the VWRF’s effluent,  
11 and to determine if and if so, what site-specific copper effluent limit would be appropriate to protect the  
12 SCRE.

13 Accordingly, the City (1) conducted a Metals Translator Study to determine the ratio between  
14 total and dissolved copper in the estuary, (2) conducted a Resident Species Survey to determine if the  
15 marine or freshwater criterion was more applicable, and (3) developed a recalculation procedure for the  
16 bioavailability of copper in the estuary (“Water Effect Ratio” or “WER”) in accordance with the SIP and  
17 EPA procedures and guidance. In 2001, the Regional Board amended TSO No. 00-144 with TSO No.  
18 01-058, which extended the submittal date for the three studies.

#### 19 **(1) The Metals Translator Study.**

20 In 2002 the City prepared a Metals Translator Study with input from the Regional Board Staff  
21 and pursuant to a Regional Board-approved work plan to determine the proper effluent limits for metals,  
22 including copper (“Cu”) for the VWRF discharge.<sup>5</sup> The Metals Translator Study was part of a multiple-

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23 the CTR. On April 26, 2000, State Board adopted the *Amending Resolution No. 2000-15 Regarding*  
24 *Adoption of the Policy for the Implementation of Toxic Standards for Inland Surface Waters,*  
25 *Enclosed Bays, and Estuaries of California* (Order No. 2000-030)., (collectively, the State  
Implementation Plan or “SIP”)

26 <sup>5</sup> METALS TRANSLATOR STUDY, SANTA CLARA RIVER ESTUARY VENTURA WATER  
RECLAMATION FACILITY NPDES PERMIT NO. CA0053651, CI-1822, Prepared by ENTRIX,  
27 Inc. (August 23, 2002) (“Metals Translator Study”). The Metals Translator Study appears in the  
28 administrative record for the Permit. The principal objective of the Metals Translator Study was to  
determine the metals translators for copper, nickel, zinc, and lead following guidance from US EPA,  
*The Metals Translator: Guidance for Calculating a Total Recoverable Permit Limit From a*

part series of studies required by the Regional Board to determine the proper effluent limits for copper, nickel, zinc and lead. (Metals Translator Study at p. 1-1.) The Regional Board required the studies in order to decide whether to require the VWRF effluent to meet the metals criteria for freshwater or salt water. (*Ibid.*)

The dissolved metals criteria may be based on the levels required to protect freshwater organisms (“freshwater criteria”) or marine organisms (“saltwater criteria”). Saltwater criteria for dissolved metals are generally more stringent than the freshwater criteria. In accordance with SIP and EPA guidance, the dissolved metal to total metal concentration ratio (“translator”) for each metal (copper, nickel and zinc) was calculated as the geometric mean of the ratios of dissolved metal to total recoverable metal. (Metals Translator Study at p. 5-1; see *id.* at Tables 5-1 through 5-3; EPA Metals Translator Guidance.) The translator for copper, based on the geometric mean, is calculated at 0.86. (Metals Translator Study at p. 5-1.)

The impact of the translator on the total recoverable copper used to establish Permit limits for copper is dependent on whether the translator is applied to dissolved freshwater or saltwater criteria. However, sampling in the SCRE revealed that the estuary is neither strictly freshwater nor strictly saltwater. (*Id.* at p. 3-1.)<sup>6</sup> But the samples revealed that salinity in the SCRE lagoon never exceeds 10 parts per thousand (“ppt”), which is the saltwater threshold, except at the mouth of the lagoon where the estuary ends and the ocean begins. Instead:

Monitoring during the study indicated that upstream and near the discharge channel salinities were relatively low, between 1 and 5 ppt. The central portion of the Estuary, where the lagoon persists, was more brackish with salinities between 5 and 10 ppt. An isolated area near the mouth [of the SCRE] comprised the only marine-like conditions where salinities exceeded 10 ppt. The higher salinities were measured during the winter, when runoff was far below normal.

(Metals Translator Study at pp. 6-1 – 6-2.)

Where the salinity ranges from 1 to 10 ppt, EPA regulations provide that:

For waters in which the salinity is between 1 and 10 parts per thousand as defined in paragraphs (c)(3)(i) and (ii) of this section, the applicable

*Dissolved Criterion* (1996) (“EPA Metals Translator Guidance”) and Regional Board staff direction. (Metals Translator Study at p. 1-2.) A metals translator answers the question “what fraction of metal in the effluent will be dissolved in the receiving water body, and therefore bioavailable?” (*Ibid.*)

<sup>6</sup> There is no question that the Wildlife Ponds are freshwater.

criteria are the more stringent of the freshwater or saltwater criteria. However, *the Regional Administrator may approve the use of the alternative freshwater or saltwater criteria if scientifically defensible information and data demonstrate that on a site-specific basis the biology of the water body is dominated by freshwater aquatic life and that freshwater criteria are more appropriate*; or conversely, the biology of the water body is dominated by saltwater aquatic life and that saltwater criteria are more appropriate.

(40 C.F.R. § 131.38(c)(3)(iii), emphasis added.)

Thus, the Metals Translator Study concluded that its results must be interpreted in coordination with the results of a Resident Species Study that was being conducted in the SCRE in conjunction with the Metals Translator Study, because the Resident Species Study would reveal, among other things, the extent to which the SCRE is populated by freshwater or saltwater species. (*Ibid.*; see also *id.* at p. 6-1.) At no time in the process of conducting these Regional Board-approved studies did the Regional Board inform the City that a Resident Species Study was inappropriate or that the Regional Board intended to adopt the saltwater criteria no matter what the results of the Resident Species Study showed.

## **(2) The Resident Species Study.**

The Resident Species Study was performed in accordance with the SIP and applicable EPA guidance, and it was developed in consultation with the California Department of Fish and Game and with Regional Board input and approval.<sup>7</sup> The City conducted this study under the supervision of the Regional Board staff to determine whether to apply the metals translators to freshwater or saltwater criteria in the SCRE to derive the effluent limit for metals. The ultimate objective of the Resident Species Study was to determine whether the EPA's freshwater or saltwater criteria are appropriate for VWRf effluent. (Resident Species Study at pp. 1-6 – 1-7.) The study used the taxonomic composition of benthic macroinvertebrates ("invertebrates") living in the SCRE as the best way to characterize the salinity tolerance ranges of resident species in the estuary. (*Id.* at p. ix.) The data were supplemented with invertebrate, fish, and vegetation information from prior studies in the SCRE. (*Id.* at p. 1-6.) The study was designed as approved because species composition is the EPA's preferred method for

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<sup>7</sup> RESIDENT SPECIES STUDY, SANTA CLARA RIVER ESTUARY VENTURA WATER RECLAMATION FACILITY NPDES PERMIT NO. CA0053651, CI-1822, prepared by: ENTRIX, INC. (September 17, 2002) ("Resident Species Study"). The Resident Species Study is part of the administrative record for the Permit.

determining whether freshwater or saltwater criteria are appropriate, as described in the California Toxic Rule ("CTR"). (*Id.* at p. ix.)

Among the findings of the Resident Species Study, two are of particular importance:

In comparison to the invertebrates used by the EPA to establish the freshwater copper criteria, the SCRE has an approximate 25% taxonomic overlap with the freshwater families. ***Of the six most common taxa found in the SCRE, four were used by the EPA in establishing the freshwater copper criteria.*** Most overlap between the EPA test species and SCRE species is at the genus level. ***In contrast, there is no taxonomic overlap at the species, genus, or family level between the taxa found in the SCRE with the families used by the EPA to establish the saltwater copper criterion. The freshwater criteria have been established based upon many of the families found in the SCRE, and are, therefore, appropriate for the SCRE.***

A majority of SCRE species are freshwater species tolerant of brackish conditions or brackish species. Similarly, the EPA test species used in establishing the freshwater copper criteria are primarily freshwater species tolerant of brackish conditions or euryhaline species. In contrast, the EPA test species used for the saltwater criteria are primarily marine organisms intolerant of brackish conditions or brackish organisms. ***Given this comparison, the freshwater criteria would be more protective of [and certainly more appropriate for] the salinity ranges found in the SCRE than the saltwater criteria.***

(Resident Species Study at p. x, emphasis added.)

Based on these findings, the City requested that the effluent limit for copper be established using the hardness-dependent equations for freshwater metals criteria presented in the CTR to establish site-specific effluent limits for the VWRf discharge. (*Id.* at p. xi, 7-2.) The CTR notes that chemical toxicity is often related to certain receiving water characteristics (pH, hardness, etc.) of a water body. (40 C.F.R. § 131.38). Adoption of some criteria without consideration of these parameters could result in the criteria being overprotective. EPA based the CTR on calculations using its 1985 Guidance for implementation of Section 304(a) of the Clean Water Act. (65 Fed. Reg. 31681, 31689 (May 18, 2000) [Water Quality Standards; Establishment of Numeric Criteria for Priority Toxic Pollutants for the State of California, Final Rule].) As EPA noted:

EPA's 1985 Guidelines attempt to provide a reasonable and adequate amount of protection with only a small possibility of substantial overprotection or underprotection. As discussed in detail below, there are several individual factors which may make the criteria somewhat overprotective or underprotective. The approach EPA is using is believed to be as well balanced as possible, given the state of the science.

1 (65 Fed. Reg. at pp. 31688-31689.)

2 Using EPA's formulas to take into account the hardness of the water in the SCRE, the Resident  
3 Species Study arrived at a final acute value for copper of 14.57 µg/L at a hardness of 50 mg/L, and a  
4 chronic value for copper of 7.285 µg/L at 50 mg/L hardness. (Resident Species Study at pp. 6-1 – 6-4.)<sup>8</sup>

5 **(3) The Water Effects Ratio Studies.**

6 With the Metals Translator and Resident Species Studies completed, the Regional Board staff  
7 requested that the City perform a series of Water Effects Ratio ("WER") studies in order to determine  
8 the appropriate site-specific objective for copper. Because the SIP approves compliance with EPA  
9 guidance in conducting water effects ratio studies, and because the only policy and guidance available  
10 for designing and applying WERs to calculate effluent limits is provided by EPA, the City utilized that  
11 policy in performing the WER studies that the City submitted to the Board as part of a comprehensive  
12 Enhancement Study initiated in 2003 and completed in May 2005.<sup>9</sup>

13 The same EPA guidance has been used and accepted by the Regional Board in determining the  
14 Lower Calleguas Creek and Mugu Lagoon copper site-specific objectives (August 2006) and by the San  
15 Francisco Bay Region Board in determining the San Francisco Bay copper site-specific objectives (June  
16 2007). The WER studies performed as part of the Enhancement Study "assessed copper toxicity on both  
17 marine and freshwater test species, and analyzed estuary sediments to determine if copper, as well as  
18 other contaminants of concern, are accumulating to levels that might result in adverse effects."

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19 <sup>8</sup> Criteria are expressed as pairs of numbers. Criteria Maximum Concentration ("CMC" or "acute  
20 toxicity") equals the highest concentration of a pollutant to which aquatic life can be exposed for a  
21 short period of time without deleterious effects. Criteria Continuous Concentration ("CCC" or  
22 "chronic toxicity") equals the highest concentration of a pollutant to which aquatic life can be  
23 exposed for an extended period of time (4 days) without deleterious effects. (40 C.F.R.  
24 § 131.38(b)(1), fn. d.) It is important to note that the water in the VWRP's effluent is harder than 50  
mg/L, as is the water entering the SCRE from the Santa Clara River. Thus, these values may result  
in effluent limits that are higher because the salinity of the effluent and SCRE is higher than 50  
mg/L.

25 <sup>9</sup> COMPREHENSIVE ANALYSIS OF ENHANCEMENTS AND IMPACTS ASSOCIATED WITH  
26 DISCHARGE OF TREATED EFFLUENT FROM THE VENTURA WATER RECLAMATION  
27 FACILITY TO THE SANTA CLARA RIVER ESTUARY, TOXICOLOGY, ECOLOGY, AND  
28 HYDROLOGY FINAL REPORT, submitted by: Nautilus Environmental (May 2005)  
("Enhancement Study"). The Enhancement Study is part of the administrative record for the Permit.  
The WER studies component of the Enhancement Study was performed according to EPA and ANSI  
standards. (Enhancement Study at pp. 35-36, 79.) The Regional Board has no policy of its own,  
although the City understands that a policy is being developed for the Los Angeles Region.



(Enhancement Study at p. ES-2.) The Enhancement Study used the results of six sampling events from sites located throughout the lagoon related to water and/or sediment quality, covering both wet and dry periods in the SCRE. In addition, WER studies were performed using fifteen water samples collected during four representative events—two wet weather, and two dry weather<sup>10</sup>—to determine the bioavailability of copper in the samples, as well as develop site-specific water quality criteria for copper. (*Id.* at p. 4.)

The WER studies compared the relative toxicity of copper in samples collected from the lagoon to the toxicity observed in clean seawater to develop a ratio for adjusting the current copper criterion to reflect site-specific characteristics that reduce the bioavailability of copper in the lagoon. The WER was determined conservatively by using the test organisms with the greatest sensitivity to copper (i.e., marine mussel larvae) to test for toxicity. (Enhancement Study at pp. 5-6, 79-80.)

Pursuant to EPA guidance, average values for each testing event were calculated using the geometric mean ratio of the four samples tested in each event. (*Id.* at p. 79-80.) The overall WER value was then calculated as the geometric mean of the average values from each of the four events. (*Ibid.*) “The WER calculated across all of the testing events, taking into account seasonal as well as spatial variability, is 3.7. Applying this value to the current marine acute and chronic criteria for copper results in site-specific criteria estimates of 17.8 and 11.5 µg/L, respectively.” (*Id.* at p. 80.)

With respect to copper toxicity in the SCRE, the WER studies determined that:

1. Analysis of historical data indicates no relationship between effluent toxicity and copper concentrations.
2. Analysis of species present in the estuary clearly suggests that the community is dominated by a combination of freshwater species and brackish species tolerant of freshwater. Marine species appear to be present on a transient and opportunistic basis associated with ocean inflows during tidal breaching.
3. Some of the most sensitive taxa used to determine the freshwater copper criterion are found in the estuary, suggesting that copper is not limiting their distribution.
4. Copper and other contaminants of concern (i.e., zinc, nickel and selenium) are not accumulating in sediments in the estuary.

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<sup>10</sup> Specifically, July 2004 (dry weather, berm closed), September 2004 (dry weather, berm open), and January 2005 (wet weather, berm open). (*Id.* at p. 4.)

1 5. Copper concentrations in sediments are below sediment quality  
2 guidelines, as were concentrations of other contaminants of concern.

3 6. The low frequency of toxicity observed in sediment samples further  
4 suggests that sediment quality is generally good throughout the lagoon.

5 7. Intermittent toxicity observed in sediment samples was not related to  
6 concentrations of copper or other contaminants measured. Reduced  
7 survival of amphipods appeared to be related to the presence of coarse  
8 sediments, and the cause of reduced normal development of mussel larvae  
9 was not determined.

10 8. Over 100 toxicity tests were conducted on water samples from the  
11 lagoon. Approximately 10 percent of the samples exhibited toxicity, with  
12 most of the toxicity occurring during stormwater or dry weather outflow  
13 events, suggesting that upstream and groundwater sources are of concern.  
14 No toxicity was observed during a dry weather period when the lagoon  
15 was full; this condition would correspond with maximum influence of  
16 VWRP on water quality in the lagoon.

17 9. Generally, water samples collected from the lagoon did not exhibit  
18 toxicity to freshwater aquatic test organisms, other than what could be  
19 attributed to elevated salinity.

20 10. Generally, no adverse effects were observed with bivalve larvae  
21 (*Mytilus* sp.), the most sensitive species used to determine the marine  
22 copper water quality criterion.

23 11. Overall, the frequency and intensity of toxicity was low, with no  
24 sampling location consistently eliciting a response.

25 12. Copper concentrations were generally low in all water samples tested,  
26 and no relationships were observed between aquatic toxicity and  
27 concentrations of copper or other contaminants of concern.

28 13. Results from the WER studies indicate that the bioavailability of  
copper in samples collected from the lagoon is appreciably less than in  
laboratory seawater. Site specific marine acute and chronic water quality  
criteria were calculated as 17.8 micrograms per liter (µg/L) and 11.5 µg/L,  
respectively.

(*Id.* at pp. ES-4-5.)

In brief, the WER studies showed that even if the more stringent (i.e., more conservative)  
saltwater criteria are used, and toxicity is determined using the most sensitive marine species known to  
and used by EPA, the WER-based on the geometric mean of the 15 data points is 3.7, and the resulting  
site-specific criteria are fully protective of beneficial uses. (*Id.* at pp. 79-80.) Using these conservative  
methods, the resulting site-specific effluent limit for copper should be no lower than 17.8 µg/L (daily  
maximum) and 11.5 µg/L (monthly average) based on the national saltwater criteria for copper. (*Ibid.*)  
By using one conservative measure on top of the other in this manner, the WER-based site-specific

1 effluent limits calculated by the City pursuant to the SIP and EPA guidance in studies mandated and  
2 supervised by Regional Board staff provide more than enough protection of the aquatic species found in  
3 the SCRE.

4       However, to be absolutely certain that the WER-based site-specific copper effluent limits are  
5 protective of even the most sensitive marine species in the EPA database (i.e., mussel larvae), the WER  
6 studies included a comparison of the calculated chronic site-specific objective of 11.5 µg/L with the  
7 actual no-observable-effect concentrations (“NOECs”) calculated by EPA in the studies in which  
8 laboratory seawater was spiked with copper to determine if the revised value was in fact protective. (*Id.*  
9 at p. 80.) In all fifteen cases, the highest NOECs for mussel larvae were greater than the calculated site-  
10 specific water quality criteria value of 11.5 µg/L. It bears repeating that *mussel larvae are the most*  
11 *sensitive marine organism in the EPA database*. They are not found in the SCRE. Nevertheless, the  
12 City tested the calculated site-specific saltwater limits using the most sensitive species known to EPA.  
13 Thus, additional assurance is provided that the value calculated by the City in studies supervised by the  
14 Regional Board is protective even by this ultra-conservative empirical measure. (*Ibid.*)

#### 15       **D.       Regional Board Actions Regarding Copper.**

16       The Metals Translator Study and the Resident Species Study provide empirical support for the  
17 application of freshwater criteria for copper that would result in site-specific discharge limits for copper.  
18 As explained above, the Resident Species Study revealed that the SCRE is dominated by freshwater  
19 species, many of which are the same species EPA used to compute its *freshwater* criteria, and therefore  
20 the freshwater criteria provide sufficient protection from copper of the biological organisms that inhabit  
21 the SCRE. In addition, VWRF effluent is discharged first to a series of freshwater ponds before it is  
22 released to the SCRE, providing further protection of the biological organisms that inhabit the SCRE.  
23 The WER studies were conducted as part of the Enhancement Study at the request of the California  
24 Department of Fish and Game, the National Marine Fisheries Service, the U.S. Fish and Wildlife  
25 Service (collectively, the “Resource Agencies”), and with the approval and under the supervision of  
26 Regional Board staff. They yielded a WER of 3.7, which translates into copper limits of 17.8 µg/L  
27 (daily maximum) and 11.5 µg/L (monthly average). Empirical tests confirmed that the 11.5 µg/L site-  
28 specific objective is below the no-observable-effects concentrations for the most sensitive marine

species in EPA’s database—a species not present in the SCRE, but chosen as a “worst case scenario” test case to be certain that the calculated limits are, in fact, protective. While the City disagrees with the Regional Board’s arbitrary decision to use the saltwater criteria, the City took a compromise position that it would accept the inappropriate saltwater criteria, if the Regional Board utilized the geometric mean of the WER study samples to establish a daily maximum limit of 18 µg/L and a monthly maximum limit of 12 µg/L pursuant to EPA guidance.<sup>11</sup>

Instead of relying on studies conducted pursuant to the SIP, EPA guidance and Regional Board staff’s approval, the Regional Board ignored all three studies, and imposed the more stringent saltwater criteria, and used the lowest WER that could be calculated to set the Permit copper effluent limits. Despite all evidence to the contrary and repeated requests supported by further evidence, the Regional Board failed to reconsider its decision to use saltwater criteria or its refusal to issue a TSO to allow the City time to meet the far more stringent limits, and failed to properly consider overwhelming scientific evidence in the record supporting alternative, fully protective and technologically attainable copper limits suggested by the City’s scientific studies.

To compound this mistake, the City was blindsided by the Regional Board’s decision to insist upon unduly stringent copper effluent limitations without providing sufficient time for compliance. Initially, in the Tentative Order dated April 27, 2007 at p. 16, Table 6, the Regional Board staff required use of the saltwater criteria to set a daily maximum for copper of **5.8 µg/L** and a average monthly limit of **2.8 µg/L**., but allowed for a maximum daily interim effluent limit of 17 µg/L from September 2007 until August 31, 2010 with no interim limit for monthly average copper discharges. (*Id.* at p. 19.) Then, for the first time on January 7, 2008, the Revised Tentative Order both removed the interim effluent limits previously proposed, and included a new and more stringent effluent limitation for copper based both the saltwater criteria and on the lowest recorded datum for copper in the WER studies, rather than

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<sup>11</sup> While the City has taken a compromise position accepting the use of site specific limitations calculated on the basis of saltwater copper criteria so long as the proper methodology consistent with EPA guidance is used to calculate the WER ratio and resulting copper limitation, the City reserves its right to argue that the Regional Board should have adopted the freshwater criteria. The City has made a record of its objections to the Regional Board’s selection of the saltwater (rather than the freshwater) criteria for purposes of calculating the copper limitation by written and public comments submitted during the public comment periods and at the adoption hearing.

1 the geometric mean of the 15 data as required by EPA guidance. (See, e.g., Tentative Order, January 7,  
2 2008 at p. 19, fn. 10 [using a WER of 1.77 instead of the WER of 3.7 derived from the geometric mean  
3 of all four sampling events pursuant to EPA guidance]. Next, the Regional Board lowered the copper  
4 limits again, relying on an even lower WER of 1.58. (Tentative Order, February 20, 2007 at p. 20,  
5 fn. 11.) Finally, despite the scientific evidence in the record, and the written comments and testimony to  
6 the contrary presented in response to the January 7 and February 20, 2008 Tentative Order and at the  
7 March 6, 2008 Public Hearing, the Regional Board refused to employ the freshwater criteria or the  
8 geometric mean of the 15 data points in the WER Study. Thus, ***the Permit imposes an acute copper***  
9 ***limit of 8.8 µg/L and a chronic limit of 4.2 µg/L while removing any interim effluent limits even for***  
10 ***acute copper toxicity in cold weather.*** (Exhibit “A” at p. 19.)

11 These limits are far lower than prior TSO’s interim limits for copper (16 µg/L [daily maximum]  
12 and 13 µg/L [monthly average]),<sup>12</sup> the freshwater criteria in the CTR (13 µg/L and 9.0 µg/L), site-specific  
13 effluent limits of 14.57 µg/L at a hardness of 50 mg/L and a chronic value for copper of 7.285 µg/L at  
14 50 mg/L hardness, which were derived from the empirical data the Metals Translator Study and Resident  
15 Species Study as applied to freshwater criteria, and the even more conservative WER-based saltwater  
16 site-specific effluent limits of 17.8 µg/L and 11.5 µg/L. As explained above, all three studies were  
17 performed according to the SIP, EPA guidance and Regional Board staff-approved work plans.

18 As demonstrated in summary fashion below, the copper limits in the Permit are not supported by  
19 substantial evidence in the record, they violate state and federal law, and will likely trigger civil and  
20 criminal liability during cold weather. Moreover, the more stringent limits are unnecessary to protect  
21 the SCRE or to improve appreciably protection of resident species in the SCRE, given that the City  
22 supported saltwater site specific effluent limits are more stringent than the EPA-calculated NOECs for  
23 the most sensitive species within the SCRE, and that VWRF effluent is first discharged to a series of  
24 freshwater treatment ponds before it is released to the SCRE. At the very least, in light of the  
25 technological infeasibility of meeting the new, ultra-conservative copper limits in cold weather, the  
26 Regional Board should have issued a TSO with realistic interim limits and a time-frame allowing for  
27 technical review of the copper limits, investigation and testing of the benefits and potential adverse  
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<sup>12</sup> See Time Schedule Order No. R4-2006-0093 (Dec. 14, 2006) at p. 11.

1 water quality impacts of experimental copper treatment technologies, and compliance or a  
2 demonstration that reductions beyond a certain point remains technologically infeasible and unnecessary  
3 for protection of the SCRE.

4 Thus, the City has filed this Petition for review of the adopted Permit copper limits. However, in  
5 the spirit of cooperation and in the hopes that ongoing technical review will expeditiously resolve the  
6 issues between the Regional Board and the City without State Board review and potential future  
7 litigation, the City has requested that the Petition be held in abeyance. (See p. 5 above.)

### 8 **3. ARGUMENT.**

#### 9 **A. There is No Evidence in the Record to Support the More Restrictive Copper Limits** 10 **Imposed in the Permit.**

11 As explained above, the Permit imposes an acute copper effluent limit of 8.8 µg/L and a chronic  
12 limit of 4.2 µg/L. The Regional Board based this limit on a WER of 1.58, which represents the single  
13 lowest WER computed for any of the 15 data points sampled and tested in the WER studies. Further, it  
14 chose to apply the WER to the saltwater criteria found in the CTR. However, the Regional Board has  
15 cited no evidence in the administrative record, no controlling law or regulations, and no state or federal  
16 guidance to support either of these choices.

17 Instead, the Regional Board arbitrarily selected the lowest single WER “to be conservative,” and  
18 it applied the WER to the saltwater criteria in the CTR for the same reason. (See Regional Board staff  
19 testimony from the Transcript of Proceedings, Los Angeles, California, Thursday, March 6, 2008  
20 (March 6, 2008 Transcript”), at pp. 161:24-163:08 [choosing the “worst case scenario” to compute the  
21 WER instead of data representing the SCRE as a whole and recommending further studies despite the  
22 fact that Regional Board staff approved the prior studies]; California Regional Water Quality Control  
23 Board, Los Angeles Region, Transcript of Proceedings, Los Angeles, California, Thursday, December 6,  
24 2007 (“December 6, 2007 Transcript”), at p. 0211:05-016 [Regional Board staff claiming saltwater  
25 criteria for copper in the CTR are the most stringent possible and were imposed to guarantee good  
26 quality water enters the estuary].)

27 The results of the WER studies demonstrate that the bioavailability of copper is far lower than  
28 the Permit’s copper limits assume. The Regional Board has cited no evidence to support its implicit

1 assumption regarding bioavailability of copper in the SCRE because none exists in the administrative  
2 record. Instead, it appears that Regional Board staff recommended the lowest single WER and its  
3 application to the lowest saltwater criteria because it was recommended in a comment letter prepared by  
4 Heal the Bay, despite the fact that no scientific evidence was presented in the comment letter indicating  
5 that a more conservative limit was required to protect aquatic life or habitat within the SCRE. This  
6 approach simply does not serve the goals of the Clean Water Act or the Porter-Cologne Act.

7 In contrast, the Resident Species and Enhancement Studies provide the only evidence in the  
8 administrative record of the composition of aquatic species in the SCRE, and both support a finding that  
9 the species are predominantly freshwater, with several species tolerant of brackish conditions, but  
10 marine species appear to be present only on a transient and opportunistic basis associated with ocean  
11 inflows during tidal breaching of the sand berm at the mouth of the SCRE. This conclusion supports  
12 application of the freshwater criteria, and would yield far less stringent copper limits without any harm  
13 to the species found in the SCRE. Thus, the decision to apply the WER to the saltwater criteria for  
14 copper is arbitrary and capricious. (Code Civ. Proc., § 1094.5, subd. (c); *Topanga Assn. for a Scenic*  
15 *Community v. County of Los Angeles* (1974) 11 Cal.3d 506, 513-514, fn. 16 at p. 517 [findings must  
16 bridge the analytic gap between evidence and quasi-adjudicative action, and the findings must be  
17 supported by substantial evidence in the record].)

18 Likewise, the Regional Board's arbitrary choice to use the single lowest WER instead of the  
19 geometric mean of the various WERs that represent the SCRE as a whole under various hydrological  
20 conditions was not supported by (1) any evidence in the record, (2) any scientific studies regarding  
21 metal toxicity, or (3) any published EPA or State Board guidelines. As detailed above, the WER studies  
22 component of the Enhancement Study produced 15 data points (EPA Guidance only requires the use of  
23 2 or 3), using data from four testing events (two dry and two wet weather, which also exceeds EPA  
24 guidance) in which four sites were tested for each event. The WER studies were performed in a manner  
25 that complies with the SIP and meets or exceeds the requirements of EPA guidance, and the Regional  
26 Board staff approved the work plan for the studies. The WER was calculated using the geometric mean  
27 of all WERs computed for the 15 data points, which is required by EPA guidance. The WER studies  
28 even tested the chronic copper limit computed using the national *saltwater* criterion for chronic copper

1 toxicity against the no-observable-effects concentrations for the most sensitive of all marine species  
2 found in the estuary. Even using this ultra-conservative benchmark as a test, *the chronic copper limit*  
3 *calculated using the WER of 3.7 was lower than the NOECs for the most sensitive marine species.* In  
4 other words, EPA's guidance produces a chronic toxicity limit for copper that is so low that it is  
5 guaranteed to produce no observable effect in the most sensitive saltwater species in the SCRE. Thus,  
6 there is ample evidence in the record to support the use of the WER of 3.7 and the resulting copper  
7 effluent limits.

8 The Regional Board nevertheless used a WER of 1.58, which is not derived using any published  
9 guidance, and for which Regional Board staff has cited no scholarly article, no empirical evidence, and  
10 no expert testimony to the contrary. Instead, it appears to be based on a misplaced desire to be  
11 exceedingly cautious, not on evidence or sound methodology. Thus, the Regional Board's choice of the  
12 lowest single WER finds no support in the record, and constitutes an additional abuse of discretion.  
13 (*Topanga, supra*, 11 Cal.3d at pp. 513-514.)

14 Since neither the decision to use saltwater criteria nor the decision to use the lowest single WER  
15 finds evidentiary support in the administrative record, the copper limits in the Permit must be vacated,  
16 and the State Board should either adopt the copper limits recommended in Metals Translator and  
17 Resident Species Studies or in the WER Report, or remand the Permit to the Regional Board to set  
18 limits for copper based on substantial evidence in the record.

19 **B. The New Copper Limits Are More Stringent than Required By Federal Law and**  
20 **Guidance, And Violate Section 13241 of the California Water Code.**

21 Unless it violates a federal mandate, whenever a Regional Board considers and imposes waste  
22 discharge requirements ("WDRs") and permit conditions, it must consider all of the factors prescribed in  
23 section 13241, including costs of compliance with those WDRs and permit conditions and, perhaps most  
24 importantly, the characteristics of the hydrographic unit under consideration and quality of water that is  
25 available to the individual water bodies within the unit. (*City of Burbank v. State Water Resources*  
26 *Control Board* (2005) 35 Cal.4th 613, 625.) As discussed above, the Regional Board adopted  
27 substantially more stringent copper effluent limitations than required by EPA guidance adopted under  
28 federal law. The new, more stringent effluent limitations for copper are not mandated by federal law,



1 but are instead inconsistent with EPA guidance established under federal law. Nevertheless, although  
2 adoption of more stringent effluent limitations is not mandated by, and in fact conflicts with federal law,  
3 the Regional Board failed to consider the adoption of the effluent limits in compliance with the  
4 requirements of California Water Code sections 13263 and 13241.

5 California Water Code section 13241, subdivision (d) requires the Regional Board to consider  
6 economics when establishing WDRs. That is, the Regional Board must determine if the costs to meet  
7 the more stringent effluent limitations are justified by the purported improvement in SCRE quality. The  
8 Regional Board has made no such finding. Indeed, it cannot. The Metals Translator Study, Resident  
9 Species Study, and even the most conservative WER studies all demonstrate that far less stringent  
10 effluent limits for copper than those imposed by the Regional Board would protect the aquatic species  
11 present in the SCRE and can be met without additional expenditures on treatment technology by the  
12 City. Moreover, the Enhancement Study determined that (1) some of the most sensitive species that  
13 EPA used to determine the freshwater copper criteria are found in the SCRE, which supports the  
14 conclusion that copper is not limiting their distribution; (2) copper is not accumulating in sediments in  
15 the estuary; (3) copper concentrations in sediments are below sediment quality guidelines; (4) sediment  
16 quality is generally good throughout the lagoon; (5) intermittent toxicity observed in sediment samples  
17 was not related to concentrations of copper or other contaminants measured; (6) no toxicity was  
18 observed during a dry weather period when the lagoon was full, which corresponds with maximum  
19 influence of VWRf on water quality in the SCRE; and (7) only about ten percent of the samples  
20 exhibited toxicity, with most of the toxicity occurring during storm water or dry weather outflow events,  
21 suggesting that flows from upstream and groundwater are the sources of toxicity, not VWRf effluent.

22 The evidence in the record supports the conclusion that even the most sensitive aquatic resident  
23 species in the SCRE would not benefit from meeting the new copper limits, even if it were  
24 technologically feasible to do so without using unproven, experimental technology. Thus, the additional  
25 cost of attempting to meet the new limits cannot be justified by any alleged “improvement” in water  
26 quality.

27 Furthermore, California Water Code section 13241, subdivision (c) requires that the Regional  
28 Board consider “[w]ater quality conditions that could reasonably be achieved through the coordinated

control of all factors which affect water quality in the area.” Again, the Regional Board failed to consider this factor in setting the new effluent limits for copper. For instance, as noted above, the Enhancement Study determined that much of the copper in the VWRf effluent has its origin in the copper pipes used in residences and other buildings throughout the service region, and copper levels in the SCRE are higher during storms and dry weather outflow events, when the water quality in the SCRE is determined by upstream flows and infiltration of groundwater, and evidence in the record shows that currently available non-experimental treatment technology cannot control copper in cold weather discharges to the extent necessary to meet the more stringent standards. Yet the Regional Board did not consider to what extent these other sources of copper could be controlled to achieve the new limits, nor the degree to which copper in cold-weather discharges may not be controllable with available technologies. It appears to have imposed the new ultra-conservative Permit limits on the VWRf merely because it wanted to acknowledge the comments of Heal the Bay. Because the resulting action ignores costs and available technologies, it is not consistent with adopting permit conditions based on an appropriate balancing of factors as described under section 13241 of the California Water Code. Thus, the Regional Board adopted permit limits that are more stringent than required by federal law, but failed to proceed in the manner required by California law in setting the copper limits in the Permit. This constitutes an abuse of discretion. (Code Civ. Proc., § 1094.5.)<sup>13</sup>

**C. The New Copper Effluent Limits Do Not Follow EPA Procedures Set Forth In the Code of Federal Regulations.**

**(1) Section 302 of the Clean Water Act requires consideration of costs and benefits associated with meeting a WQBEL.**

The Regional Board, in administering the federally delegated NPDES program, was required either to adopt water quality based effluent limitations (“WQBELs”) like the copper limits at issue in

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<sup>13</sup> Imposing effluent limits that are overprotective may also constitute violations of the Porter-Cologne Act and/or the federal Clean Water Act in another way. As the Supreme Court held in *Bennett v. Spear* an agency’s regulatory action can be challenged *even though the action alleges that the agency has gone too far, rather than not far enough, in carrying out its statutory mandate.* (*Bennett v. Spear* (1997) 520 U.S. 154.) The Court’s holding relies on the principle that an agency violates its enabling statute and regulations adopted thereunder by imposing conditions on a regulated entity that are more stringent than necessary to satisfy the statutory mandate. Thus, an agency may violate its enabling statute and regulations by imposing permit conditions that are under-*or* over-protective.

1 this Permit, either in compliance with the requirements imposed under federal law in the CWA and its  
2 implementing regulations and guidance, or, to the extent that it does not violate federal mandate, the  
3 Regional Board may comply with California Water Code sections 13263 and 13241. In adopting the  
4 copper limits under federal law, regulation and guidance, the Regional Board was required to evaluate  
5 modifying the WQBEL to a technically feasible limitation for up to five years because the City  
6 demonstrated that its treatment was “the maximum degree of control within the economic capability” of  
7 the City to provide, and constituted “reasonable further progress” towards ensuring pertinent water  
8 quality standards are maintained. (33 U.S.C. § 1312 (b)(2)(B).) The Regional Board never articulated  
9 why a modified effluent limitation authorized by Section 302, and derived consistently with EPA  
10 guidance was inapplicable in this case.

11 **(2) The Regional Board failed to follow Federal Clean Water Act and EPA**  
12 **procedures for WQBEL development.**

13 The federal Clean Water Act (CWA) makes WQBELs applicable to a NPDES permit applicant  
14 whenever WQBELs are “necessary to meet water quality standards, treatment standards or schedules of  
15 compliance, established pursuant to any state law or regulations”. (33 U.S.C. § 1311(b)(1)(C).) EPA  
16 promulgated the regulations found at 40 C.F.R. § 122.44(d) governing the development of WQBELs by  
17 EPA and state administrators. Under the EPA regulations, whenever a discharge causes, *has the*  
18 *reasonable potential to cause*, or contributes to an excursion above water quality standards (narrative or  
19 numeric), the permitting entity is required to develop a WQBEL. (40 C.F.R. § 122.44(d)(1)(i).) In order  
20 to determine whether there is a reasonable potential to cause an exceedence of pertinent water quality  
21 standards, permitting authorities are required to undertake what is commonly referred to as a  
22 “reasonable potential analysis”. (*Communities for a Better Environment v. State Water Resources*  
23 *Control Board* (2003) 109 Cal. App. 4th 1089, 1094.) For toxicants, the reasonable potential analysis is  
24 carried out utilizing the EPA policies contained in its 1991 Technical Support Document. *See United*  
25 *States Environmental Protection Agency, Office of Water, Technical Support Document For Water*  
26 *Quality-Based Toxics Control* (1991), Chs. 3, 5. (“TSD”)

27 Section 122.44 (d)(1) requires that a reasonable potential analysis contain all of the following  
28 elements:

1) Consideration of controls on point and non-point sources of pollution, which, according to the TSD should include consideration of the types of industries contributing loading to the receiving water, the best management practices utilized, control equipment and treatment efficiency and the type of POTW treatment/processes.

2) Consideration of the variability of the pollutant or pollutant parameters in the effluent, which, according to the TSD should include consideration of the compliance history of the Plant and existing effluent data, and whether the amount of copper varied in the effluent or water column with season or other natural events.

3) Sensitivity of the species to toxicity testing, which, according to the TSD should include consideration of state numeric and narrative criteria and designated uses and adverse impacts at the discharge location (or other similar discharge locations).

4) Dilution of the effluent in receiving waters, which, according to the TSD should include consideration of the stream flow during different times of the year and the size of the discharge in relation to stream flow.

(40 C.F.R. § 122.44(d)(1)(ii); TSD at pp. 49-51.)

The Regional Board failed to properly consider these four factors in deciding to impose a WQBEL in the City's Permit.

As discussed above, the extensive information Source Control Study, the Metals Translator Study, the Resident Species Study and the WER studies prepared by the City under Regional Board supervision and with input from the Resource Agencies contain the information that should be considered in a "reasonable potential analysis" under 40 C.F.R § 122.44(d)(1)(ii). These studies conclude, and the information in these studies support a Regional Board determination that the copper in the VWRP effluent does not have the reasonable potential to cause an instream excursion above the numeric limits that are actually protective of the most sensitive marine species found in the SCRE.

First, the City's uncontroverted Metals Translator Study, Resident Species Study and WER studies of estuary and effluent water quality demonstrate that the copper is not bioavailable in amounts toxic to even the most sensitive marine species, and that the estuary primarily exhibits the biological characteristics of a freshwater system. Nevertheless, with no evidence in the record to support that they considered the regulatory criteria and factors related to sensitivity of species in the receiving water or proper state numeric objectives derived in compliance with the SIP and EPA guidance listed above, the Regional Board adopted technologically infeasible copper effluent limits based on saltwater criteria and the lowest single WER computed from the sampling events in the Enhancement Study.

1 Second, as noted in the criteria and factors listed above, the Regional Board is required to  
2 analyze existing controls on point and non-point sources of pollution for copper in the waters that feed  
3 the estuary, sources of copper contributing to the loading to the receiving waters, and available control  
4 equipment, its treatment efficiency, and the type of POTW treatment/processes employed for the  
5 effluent at issue. The City's Source Control Study indicated that the ubiquitous copper piping used in  
6 residential and business potable water systems contributes a substantial amount of copper to the influent  
7 stream, which, in turn, increases copper in the effluent discharged. The VWRf cannot fully control  
8 these ubiquitous sources using best management techniques and control measures. In addition, as  
9 mentioned above, approximately 10 percent of the samples exhibited toxicity, with most of the toxicity  
10 occurring during stormwater or dry weather outflow events, suggesting that upstream and groundwater  
11 sources are of concern. No toxicity was observed during a dry weather period when the lagoon was full;  
12 this condition would correspond with maximum influence of VWRf on water quality in the lagoon.  
13 This suggests that there are other sources of toxic metals that impact the estuary and there is no record in  
14 this proceeding that the Regional Board has considered (or imposed discharge limitations for) these  
15 other sources. These sources were not evaluated in setting the copper effluent limits in the permit.

16 Further, the Regional Board expressly declined to consider the City's available control  
17 equipment, its treatment efficiency, and the type of POTW treatment/processes employed for the  
18 effluent at issue. As a result, the Regional Board adopted overly protective copper WQBELs without  
19 properly considering in compliance with federal regulations (1) the studies and evidence in the record  
20 establishing that the limits could not be attained due to sources of copper contributing to copper levels in  
21 the SCRE and the VWRf discharge, (2) limitations affecting existing POTW treatment processes, (3) the  
22 unavailability of other, non-experimental treatment control equipment, and (4) the resulting  
23 technological infeasibility of meeting the more stringent copper limits in cold weather.

24 Third, the Regional Board is required, but failed, to analyze the pollutant variability both in the  
25 effluent and in the water column, ***including consideration of the compliance history of the Plant*** and  
26 existing effluent data, and whether the amount of copper varied in the effluent or water column with  
27 season or other natural events. In the past, the Regional Board acknowledged the City's timely  
28 submittal of all the requested technical reports and monitoring data (e.g., the Metals Translator Study,

1 Resident Species Study, and the Enhancement Study, which included the WER studies), and it  
2 considered the City's continuous updates to the VWRF to comply with the final effluent limits. (See  
3 TSO No. R4-2006-0093 at pp. 9-11.)

4 Uncharacteristically, when it issued the new copper limits in the Permit, the Regional Board did  
5 not consider the City's past efforts to eliminate and control effluent copper levels and expend funds to  
6 continually upgrade the VWRF treatment plant in good faith efforts to comply with all state and federal  
7 requirements. The City's history of timely compliance and diligent upgrades to the VWRF to meet  
8 every one of the Regional Board's past TSOs alone should have given the Regional Board assurance that  
9 a large "margin of error" was not required to be written into the new copper effluent limits. Nor did the  
10 Regional Board consider whether seasonal limitations might be more appropriate during cold weather,  
11 when the City's biological and 'iron salts' treatment system becomes less efficient, but higher dilution  
12 flows are generally available.<sup>14</sup>

13 Fourth, the Regional Board is required to consider the characteristics of the receiving water and  
14 its designated beneficial uses. The City's studies demonstrate that the current discharge is not harming  
15 aquatic life, and there is no scientifically supported evidence in the administrative record to the contrary.  
16 The Regional Board did not, as suggested by the TSD, demonstrate that there were prior fish kills or  
17 other adverse impacts on wildlife associated with toxicity (e.g., fishing bans, restrictions on recreational  
18 contact) taking place, or likely to take place, in the estuary. (TSD at. pp. 50-51.)

19 After considering and analyzing the factors mandated above, the TSD requires a permitting  
20 entity to provide "a clear and logical rational for the need for the limit covering all of the regulatory  
21 points" when developing and imposing a WQBEL in an NPDES permit. (TSD at p. 51.) The Regional  
22 Board's unsupported decision simply does not measure up to this requirement.

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23 <sup>14</sup> Currently, the City relies on a biological process combined with an 'iron salts' treatment process for  
24 removal of a number of constituents, including nutrients and copper. The biological process  
25 essentially relies on the nutrient treatment process to create alkaline conditions, which in turn  
26 facilitate removal and settling out of copper from solution via the iron salts process. In the winter  
27 months, removal rates associated with these biological processes are reduced, as a function of  
28 reduced ambient temperatures. Consequently, removal efficiencies are also reduced. In this case, in  
winter months there is reduced utilization of nitrate, which in turn leads to lower alkalinity than  
present in the summer months. Lower alkalinity in cold months reduces the amount of copper that  
can be settled out of solution during treatment, leaving higher copper levels in the discharge during  
cold months.

1                   **(3)     Failure to consider non-numeric regulatory mechanisms to achieve the**  
2                   **WQBEL.**

3           The Regional Board failed to consider the use of best management practices (or other regulatory  
4 tools) to achieve, or assist in achieving, WQBELs. They were required to do so where, as here, the  
5 proposed “numeric effluent limitations are infeasible”. (40 C.F.R. § 122.44(k).) A WQBEL need not be  
6 strictly numeric under federal or state law. (See *Communities for a Better Environment, supra*, 109 Cal.  
7 App. 4th at p. 1105.) Instead, regulatory mechanisms that are reasonably calculated to lead to protection  
8 of all beneficial uses—to include, best management practices, compliance schedules, performance  
9 standards, and/or narrative limitations—should be considered by the permitting authority where a  
10 strictly numeric limitation cannot be met with any known technology. (See *id.* at 1107 [noting that  
11 “long term pollution control procedure for a complex environmental setting” satisfied requirement to  
12 develop WQBEL under 40 C.F.R. § 122.44].) Here, there is no evidence in the record that the Regional  
13 Board considered the use of best management practices as a means, or part of the means, to achieve  
14 applicable water quality standards for copper in the estuary.

15                   **D.     The Regional Board Should Have Included a Time Schedule Order for Copper.**

16           As explained above, the Regional Board set the new copper effluent limits late in the  
17 administrative process for the Permit, and it set the limits at levels that are not currently achievable using  
18 non-experimental technology without considering the factors or making the findings required by state or  
19 federal law and without providing for a compliance schedule or time schedule order (“TSO”) that would  
20 allow the City to take steps in order to achieve compliance.

21           EPA regulations allow for the issuance of a TSO for toxic metals:

22                   Where an existing discharger reasonably believes that it will be infeasible  
23                   to promptly comply with a new or more restrictive WQBEL based on the  
24                   water quality criteria set forth in this section, the discharger may request  
25                   approval from the permit issuing authority for a schedule of compliance.

26                   . . . A compliance schedule shall require compliance with WQBELs based  
27                   on water quality criteria set forth in paragraph (b) of this section as soon as  
28                   possible, taking into account the dischargers’ technical ability to achieve  
29                   compliance with such WQBEL.

30           (40 C.F.R. § 131.38(e)(3)-(4).)

31           During the March 6, 2008 adoption hearing, the City requested that the Regional Board issue the  
32 permit with a TSO to allow the City to, among other things, study unproven copper treatment

1 technologies and conduct field tests of these unproven technologies in an attempt to comply with the  
2 new copper effluent limits. The Regional Board denied the City's request stating that it interprets the  
3 State Board's *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays,*  
4 *and Estuaries of California* ("SIP") as precluding issuance of a TSO for the new copper effluent limits.  
5 The City disagrees.

6 By way of background, the SIP was adopted by the State Board in 2000 to implement the criteria  
7 for priority toxic pollutants contained in the CTR.<sup>15</sup> The SIP provides the following with respect to  
8 TSOs in NPDES permits for compliance with CTR criteria:

9 Based on an existing discharger's request and demonstration that it is  
10 infeasible for the discharger to achieve immediate compliance with a CTR  
11 criterion, or with an effluent limitation based on a CTR criterion, the  
12 RWQCB may establish a compliance schedule in an NPDES permit . . . .  
The schedule of compliance for point source dischargers in an NPDES  
permit shall be as short as practicable but in no case exceed the following:

13 ***A. Up to five years from the date of permit issuance, reissuance, or***  
14 ***modification*** to complete actions (such as pollutant minimization or  
15 facility upgrades) necessary to comply with CTR criterion-based effluent  
limitations that are derived with or without a TMDL. ***Such actions shall***  
***include the development and adoption of a site-specific objective, if***  
***appropriate,*** as provided in section 5.2 . . . .

16 In no case (unless an exception has been granted in accordance with  
17 section 5.3) shall a compliance schedule for these dischargers exceed,  
18 from the effective date of this Policy: (a) ***10 years to establish and***  
***comply*** with CTR criterion-based effluent limitations . . . .

19 (SIP, § 2.1, pp. 20-21 (2005), emphasis added.)

20 In May 2001, EPA approved the above-cited provisions of the SIP stating:

21 Under Section 2.1.A, the maximum compliance schedule the Regional  
22 Board may grant an individual discharger is up to five years from the date  
23 of permit issuance, reissuance or modification. This comports with the  
24 State Board's assessment, and with EPA's experience, that five years are  
generally the maximum amount of time existing dischargers would need to  
25 complete the necessary planning, funding and facility upgrades to achieve  
26 compliance with new WQBELs. Under Section 2.1(a), ***the final***  
***compliance date with all CTR criterion-based effluent limitations is ten***  
***(10) years from the effective date of the policy, which was May 18, 2000.***  
27 Therefore, the Regional Board does not have the authority under Section  
2.1(a) to grant any compliance schedule for CTR criteria that goes beyond  
May 18, 2010.

28 <sup>15</sup> The SIP was updated in 2005, however, the relevant provisions related to compliance schedules in  
NPDES permits have remained the same.



1 (Environmental Protection Agency, *EPA's Clean Water Agency Section 303(c) Action on the Policy for*  
2 *Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays and Estuaries of*  
3 *California*, pp. 7-8 (May 1, 2001), emphasis added.)

4 The SIP provides that the Regional Board may issue TSOs that allow “up to five years from the  
5 date of permit issuance, reissuance, or modification” to achieve actions that may include actually  
6 establishing the CTR-criterion based effluent limitation using site specific objectives that may be  
7 developed during that five-year period. (SIP, §2.1.A., p. 21.) Further, the SIP allows for compliance  
8 schedules of up to 10 years from May 2000, for purposes of **establishing and complying** with CTR-  
9 criterion based effluent limitations. (SIP, §2.1.(a), p. 21.) In this instance, a TSO was issued and  
10 renewed for five years prior to adoption of the Permit, and the 5-year term of the TSO was used to  
11 prepare the studies and information necessary to establish a CTR-criterion based effluent limitation for  
12 copper. The CTR-criterion based copper limitation was then **established** based on development of a site  
13 specific objective and adopted when the Permit was reissued. By its express terms, the SIP now allows  
14 for a TSO of five years from the Permit re-issuance date (March 6, 2008) for purposes of **complying**  
15 with the now established copper limitation. The adoption of a new five-year TSO concurrently with  
16 reissuance of the Permit that would allow for a schedule of compliance up until March 2010, which does  
17 not exceed 10 years from May 2000. (*Ibid.*), Further, a new, five-year TSO adopted concurrently with  
18 the Permit was shown to be appropriate because the discharger, here the City, demonstrated that  
19 immediate compliance with the CTR-criterion-based effluent limit is infeasible without the aid of  
20 unproven, experimental technology in cold weather. (SIP, Section 2.1, p. 20; 40 C.F.R. § 131.38(e).)

21 The City is entitled to a TSO because the Permit is a reissued NPDES permit establishing a  
22 CTR-based copper effluent limit, the City has demonstrated that the new copper limits proposed by the  
23 Regional Board are technologically infeasible to attain in cold weather without the use of unproven,  
24 experimental technology, and if adopted, cumulatively the total period used by City and Regional Board  
25 to establish and comply with the TSO will not have exceeded ten years from adoptions of the SIP .  
26 These are the conditions precedent for issuance of a TSO pursuant to 40 C.F.R. § 131.38(e) and the SIP.  
27 The Clean Water Act regulations allow for compliance schedules to allow dischargers time to design,  
28 fund and construct technologically feasible control measures. (40 C.F.R. § 131.38(e).) Thus, this is the

exact situation in which TSOs should be issued. Not allowing a TSO for the new copper limits is arbitrary and capricious in light of the evidence of technological infeasibility in the record.

#### 4. CONCLUSION

The Regional Board failed to support the effluent limits for copper in the Permit with substantial evidence in the record. The Regional Board also adopted a more stringent copper limit than required by federal law, guidance and policy, without considering the criteria applicable to adoption of WQBELs set forth in federal regulations, and further failed to consider the factors required by California Water Code. Finally, though the Regional Board should have, at the very least, issued a TSO in light of the technological infeasibility of meeting the new copper effluent limits. It failed to do so. Thus, the new copper effluent limits in the Permit should be declared void, and the State Board should adopt the copper limits of 18 µg/L (daily maximum) and 12 µg/L (monthly maximum). These limits were derived by calculating a WER according to EPA guidance, and applying it to the most conservative saltwater criteria.<sup>16</sup> In the alternative, the State Board should remand the permit to the Regional Board with instructions to amend the Permit to incorporate copper limits based on the proper methodology and supported by substantial evidence in the record considering technological feasibility and scientific information of limits that are adequately protective of aquatic life and habitat within the SCRE. Finally the SWRCB should issue a TSO to provide sufficient time permitted by the SIP for the City to technologically achieve copper limits to cover the anticipated non-compliance period during the pendency of this appeal.

The City requests that the State Board continue to hold this petition in abeyance during the duration of the City's review of the copper limits and experimental copper treatment technologies with the Regional Board.

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<sup>16</sup> As explained above, it is arbitrary and capricious to utilize saltwater criteria to calculate a site-specific objective for copper because the resident species in the SCRE are predominantly freshwater or freshwater tolerant of brackish conditions. Marine (saltwater) species are present only intermittently on an opportunistic basis when the berm is open and the lagoon is subject to tidal influence.

1 Dated: April 7, 2008

2 OFFICE OF THE CITY ATTORNEY  
3 ARIEL CALONNE, CITY ATTORNEY

4 NOSSAMAN, GUTHNER, KNOX & ELLIOTT, LLP  
5 MARY LYNN COFFEE  
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By: 

Mary Lynn Coffee

Attorneys for City of San Buenaventura

## PROOF OF SERVICE

The undersigned declares:

I am employed in the County of Orange, State of California. I am over the age of 18 and am not a party to the within action; my business address is c/o Nossaman, Guthner, Knox & Elliott, LLP, 18101 Von Karman Avenue, Suite 1800, Irvine, CA 92612.

On April 7, 2008, I served the foregoing **PETITION FOR REVIEW AND REQUEST TO BE HELD IN ABEYANCE** on parties to the within action by placing ( ) the original (X) a true copy thereof enclosed in a sealed envelope, addressed as follows:

Tracy Egoscue, Executive Officer  
California Regional Water Quality Control  
Board for the Los Angeles Region  
320 West Fourth Street, Suite 200  
Los Angeles, CA 90013

Jeannette L. Bashaw, Legal Secretary  
State Water Resources Control Board  
Office of Chief Counsel  
1001 "I" Street, 22nd Floor  
Sacramento, CA 95814

(X) (By Overnight Service) I served a true and correct copy by overnight delivery service for delivery on the next business day. Each copy was enclosed in an envelope or package designated by the express service carrier; deposited in a facility regularly maintained by the express service carrier or delivered to a courier or driver authorized to receive documents on its behalf; with delivery fees paid or provided for; addressed as shown on the accompanying service list.

(X) (By Electronic Service) By emailing true and correct copies to the persons at the electronic notification address(es) shown on the accompanying service list. The document(s) was/were served electronically and the transmission was reported as complete and without error.

Executed on April 7, 2008.

(X) (STATE) I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct.

---

Robin Golder

# **EXHIBIT A**

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD****LOS ANGELES REGION**

320 West 4<sup>th</sup> Street, Suite 200  
(213) 576-6660 • Fax (213) 576-6640  
<http://www.waterboards.ca.gov>

**ORDER NO. R4-2008-0011****NPDES NO. CA0053651**

**WASTE DISCHARGE REQUIREMENTS FOR THE  
CITY OF SAN BUENAVENTURA  
VENTURA WATER RECLAMATION FACILITY  
DISCHARGE TO THE SANTA CLARA RIVER ESTUARY VIA DISCHARGE OUTFALL NO. 001**

The following Discharger is subject to waste discharge requirements as set forth in this Order:

**Table 1. Discharger Information**

<b>Discharger</b>	City of San Buenaventura
<b>Name of Facility</b>	Ventura Water Reclamation Facility
<b>Facility Address</b>	1400 Spinnaker Drive
	Ventura, CA 93002-0099
	Ventura County
The U.S. Environmental Protection Agency (USEPA) and the Regional Water Quality Control Board have classified this discharge as a major discharge.	

The discharge by the City of San Buenaventura from the discharge point identified below is subject to waste discharge requirements as set forth in this Order:

**Table 2. Discharge Location**


<b>Discharge Point</b>	<b>Effluent Description</b>	<b>Discharge Point Latitude</b>	<b>Discharge Point Longitude</b>	<b>Receiving Water</b>
001	Tertiary treated wastewater	34 ° , 14' , 22.46" N	119 ° , 15' , 58.84" W	Santa Clara River Estuary via Wildlife Ponds

**Table 3. Administrative Information**

<b>This Order was adopted by the Regional Water Quality Control Board on:</b>	March 6, 2008
<b>This Order shall become effective on:</b>	Immediately effective after adoption
<b>This Order shall expire on:</b>	February 10, 2013
<b>The Discharger shall file a Report of Waste Discharge in accordance with title 23, California Code of Regulations, as application for issuance of new waste discharge requirements no later than:</b>	180 days prior to the Order expiration date

IT IS HEREBY ORDERED, that Order No. 00-143 is rescinded upon the effective date of this Order except for enforcement purposes, and, in order to meet the provisions contained in division 7 of the Water Code (commencing with section 13000) and regulations adopted thereunder, and the provisions of the federal Clean Water Act (CWA) and regulations and guidelines adopted thereunder, the Discharger shall comply with the requirements in this Order.

I, Tracy J. Egoscue, Executive Officer, do hereby certify that this Order with all attachments is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, Los Angeles Region, on March 6, 2008.

  
\_\_\_\_\_  
Tracy J. Egoscue, Executive Officer

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April 27, 2007; Revised October 23, 2007, November 8, 2007, January 7, 2008, February 20, 2008, and March 6, 2008 3



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## I. FACILITY INFORMATION

The following Discharger is subject to waste discharge requirements as set forth in this Order:

**Table 4. Facility Information**

<b>Discharger</b>	City of San Buenaventura
<b>Name of Facility</b>	Ventura Water Reclamation Facility
<b>Facility Address</b>	1400 Spinnaker Drive
	Ventura, CA 93002-0099
	Ventura County
<b>Facility Contact, Title, and Phone</b>	Donald Burt, Interim Wastewater Superintendent, (805) 677-4131
<b>Mailing Address</b>	P.O. Box 99
	Ventura, CA 93002-0099
	Ventura County
<b>Type of Facility</b>	Publicly Owned Treatment Works
<b>Facility Design Flow</b>	14 Million Gallons per Day (MGD)

## II. FINDINGS

The California Regional Water Quality Control Board, Los Angeles Region (hereinafter Regional Water Board), finds:

- A. Background.** The City of San Buenaventura (hereinafter Discharger) is currently discharging pursuant to Order No. 00-143 and National Pollutant Discharge Elimination System (hereinafter NPDES) Permit No. CA0053651. The Discharger submitted a Report of Waste Discharge (ROWD), dated April 18, 2005, and applied for an NPDES permit renewal to discharge up to 14 millions gallons per day (MGD) of tertiary treated wastewater from Ventura Water Reclamation Facility, hereinafter Facility. The application was deemed complete on March 14, 2007.

For the purposes of this Order, references to the "discharger" or "permittee" in applicable federal and state laws, regulations, plans, or policy are held to be equivalent to references to the Discharger herein.

The Water Quality Control Policy for the Enclosed Bays and Estuaries of California (Enclosed Bay and Estuaries Policy), originally adopted by the State Water Resources Control Board in 1974 and updated as Resolution No. 95-84 on November 16, 1995, states that:

*"It is the policy of the State Board that the discharge of municipal wastewaters and industrial process waters (exclusive of cooling water discharges) to enclosed bays and estuaries, other than the San Francisco Bay-Delta system, shall be phased out at the earliest practicable date. Exceptions to this provision may be granted by a Regional Board only when the Regional Board finds that the wastewater in question would consistently be treated and discharged in such a manner that it would enhance the quality of receiving waters above that which would occur in the absence of the discharge."*

The Enclosed Bay and Estuaries Policy does not define what is meant by "enhancement". That determination is left to the discretion of the Regional Board.

Section I.A. of Order No. 00-143 states that "The running 30-day average volume of treated wastewater discharged to the Santa Clara River Shall not be less than 5.6 mgd." The minimal discharge of 5.6 mgd was based upon results of the 1976 Enhancement Study conducted by the Discharger and accepted by this Regional Water Board in 1977. However, there has not been a consensus among stakeholders of whether the treated wastewater discharge into the Santa Clara River Estuary (Estuary) is beneficial and enhances the Estuary, or has adverse impacts to the Estuary.

Between October 12, 2000 and December 14, 2006, the Regional Board issued seven individual Time Schedule Orders (TSOs) to the City. These TSOs provided time to address the issue of whether the saltwater or the fresh water California Toxic Rule Criteria (CTR) should be applied for the effluent limitation calculations. The City was required to conduct the Salinity Study in 2001. The result showed that the Estuary is more like a blackish environment. Therefore, the more stringent Saltwater CTR was chosen to calculate the final effluent limitations.

A second, more fundamental issue is whether the discharge from the Facility should be allowed to continue, in view of the Bays and Estuaries Policy. Specifically, the discharge may be allowed under the Policy if it enhances the receiving waters (i.e., the Estuary) and endangered species habitat.

Regional Water Board staff met with the Discharger, Resource Agencies and other Interested Parties to review the results of the Updated Enhancement Study (May 2005). This Study was performed by Nautilus Environmental hired by the Discharger (meetings held at the Facility on March 27, 2006 and June 12, 2006). The conclusions of the Study were largely inconclusive. However, concern was expressed that a swift reduction in the volume of fresh wastewater to the Estuary could result in loss of habitat and adverse impacts on the Tidewater Goby. In addition, the resource agencies requested that the effluent should be monitored for emerging, endocrine disrupting, and pharmaceutical chemicals. This monitoring effort could determine the possible impact(s) of these chemicals on the aquatic life, particularly, the Tidewater Goby.

During a stakeholder meeting on October 19, 2007, the possible impacts of maintaining and eliminating discharge to the Estuary were discussed. "Pros" and "cons" expressed, however, no consensus was reached on the issues discussed. Resource agencies, environmental groups, interested parties, and stakeholders, all had varying opinions. The Regional Board agrees that scientific disagreement exists, and most of the commentators' opinions may have technical merit.

In addition, while the Regional Board has previously determined that the discharge enhances the Estuary, the Regional Board presently has inadequate information with which to determine whether and to what extent the discharge that could be authorized by this permit continues to constitute an enhancement. The Board also presently lacks the information necessary to determine what if any negative impacts would occur to the Estuary if the discharge was prohibited, and therefore lacks the current information necessary dispute the previous enhancement finding. The Board has conflicting, yet credible opinions from a variety of experts about harm to endangered species, habitat, and recreation, among other uses of the Estuary and areas impacted by the discharge, both with and without the discharge. In view of the aforesaid, the Regional Board finds that the best approach at this time is to cap the allowable discharge at present levels (9 MGD, as an annual average) and to require a watershed-wide study and dialogue, to determine the best approach for the Estuary that considers at a minimum:

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1. A system-wide analysis that examines the biological, recreational, physical, chemical and hydrological relationships implicated in the watershed; and,
2. A Comprehensive Plan that addresses the function of the sub-watershed and Estuary as a single unit.

To ensure compliance with the Bays and Estuaries Policy, this study should be completed as soon as practicable.

At the stakeholder meeting held on January 29, 2008, the revised tentative Order (January 7, 2008), Watershed-wide Study, and Work Plan was discussed. At this meeting, the Discharger expressed interest in exploring construction of wetlands near the Facility to improve the receiving water quality. This order contains a requirement for the Discharger to submit a Wetlands Feasibility Study (See Section VI.C.2.a.iv of Order). Once the Feasibility Study has been reviewed by Regional Board staff, the permit will be reopened (see Reopener provision in section VI.C.1.k. of the Order) and a time frame will be established by the Regional Board for further action. It is anticipated that, if feasible, the City will pursue the activity, and will begin the planning and CEQA process in order to begin the project construction activities prior to the permit expiration date.

**B. Facility Description.** The Discharger owns and operates the Facility. The treatment system consists of screenings, grit removal, primary sedimentation, flow equalization, activated sludge nitrification and partial denitrification<sup>1</sup> (NDN), tertiary filters, ammonia addition<sup>2</sup>, chlorination and dechlorination, primary sludge thickener,

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<sup>1</sup> For the nitrification process, there are two steps for ammonia being oxidized into nitrate.

Step 1: Ammonia → Nitrite

Step 2: Nitrite → Nitrate

For the denitrification process, nitrate is through a redox reaction and becomes nitrogen.

Nitrate → Nitrogen

The Facility currently does not have a full NDN process (full nitrification and partial denitrification). The effluent data between February 2003 and December 2006 did show the high effluent nitrate concentration (10.1 – 18.6 mg/L, average: 14.6 mg/L) and very low effluent nitrite concentration (always less than 0.4 mg/L, which is the detection limit). However, the nitrite effluent concentrations may exceed 1 mg/L of water quality objective specified in the Basin Plan based on the Best Professional Judgement, if the oxidation process of the nitrification is not complete. Therefore, a final nitrite limitation of 1 mg/L has been added to the Order No. R4-2008-0012 and the Discharger may request to have interim nitrite effluent limitations in the future. In addition, once the full NDN is on line, the effluent nitrate concentration shall be further reduced.

<sup>2</sup> Ammonia (NH<sub>3</sub>) has been added into chlorine contact basin since April 2004. Ammonia reacts with hypochlorous acid (HOCl) to form chloramine (NH<sub>2</sub>Cl). Here is the reaction below:



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dissolved air flotation (DAF) secondary sludge thickener, anaerobic digestion, and dewatering (using plate and frame filter presses). All of the Class B anaerobically digested sludge is dewatered and composted to Class A at Lost Hills, Kern County and then land applied to a cotton farm in Kings County. Screenings and grits are disposed of at the Toland Road landfill. The Facility is also responsible for 375 miles of sewer mains and 12 lift stations. Treated wastewater is discharged from Discharge Point No. 001 (Outfall) to a system of Wildlife Ponds<sup>3</sup> with a combined capacity of 34 million gallons providing approximately 4 days of detention, based on an average daily flow rate of 9.5 MGD and approximately 1.0 MGD of the treated wastewater percolating into groundwater from the Wildlife Ponds. This treated wastewater is then discharged to the Estuary, a water of the United States, within the Santa Clara River Watershed. Attachment B provides a map of the area surrounding the Facility. Attachment C provides a flow schematic of the Facility.

The most problematic metals were copper, nickel, and zinc prior to improving primary clarifier performance. The City of Ventura installed temporary facilities for improved primary clarifier performance in the First Quarter of 2003. Prior to the addition of iron salt between October 2000 and December 2002, the average effluent concentrations of copper, nickel, and zinc were 18, 9.7, and 69 µg/L, respectively. The addition of iron salt greatly improved removal of copper, nickel, and zinc. Between August 2003 and August 2007, the average effluent concentrations of copper, nickel, and zinc were 7.2, 3.9, and 37 µg/L, respectively. Neither antimony (reported detection limit: 1.0 µg/L), arsenic (reported detection limit: 2.0 µg/L), beryllium (reported detection limit: 0.2 µg/L), cadmium (reported detection limit: 4.0 µg/L), lead (reported detection limit: 5.0 µg/L), mercury (reported detection limit: 0.2 µg/L), silver (reported detection limit: 0.2 µg/L), nor thallium (reported detection limit: 1.0 µg/L), was detected between February 2006 and August 2007. Chromium, copper, nickel, and selenium were detected for one time during this period; however, these metals except copper were all less than the CTR-based criteria. Zinc was all less than its CTR-based criteria since November 2004. Permanent facilities for iron salt addition were completed in November 2007. The final effluent concentrations of copper, nickel, and zinc are expected to be further reduced or non-detected. Due to the major upgrade on the primary clarifier in 2003 and consideration of the representative effluent data, the effluent data collected after July 2003 were used to calculate the final effluent limitations for metals.

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Chloramine is used as a disinfectant in municipal water systems as an alternative to chlorination and also exhibits less tendency to convert organic materials into chlorocarbons such as chloroform, dichlorobromomethane, dibromochloromethane, and carbon tetrachloride.

<sup>3</sup> Optimal water amounts for bird populations in the estuary probably include both a large open water surface area during California Least Tern nesting and exposed mudflats created when the estuary bar breaches during the fall in September. During the winter months the open water areas of the estuary and the wildlife ponds provide safe sleeping areas for ducks where they can't be reached by predators like the coyote. The above information was based upon the Ventura Audubon Society's February 3, 2008 comment letter for the January 7, 2008 tentative Ventura NPDES Permit.

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To date, the City has invested \$29.5 million for Upgrades (Phase I) and a new Influent Headworks. Upgrades (Phase II) will restore biological capacity decommissioned during Phase I, and add new nutrient removal facilities. Phase II is currently estimated at \$28 million with a final design and construction period of 36 to 48 months following the adoption of this Order.

The City of Ventura conducted the "Chloramine Disinfection Investigation" at the Facility between April 2 and June 30, 2004. The results indicated that chloramine resulting from ammonia reacting with hypochlorous acid greatly reduces the effluent concentrations of dibromochloromethane, and dichlorobromomethane. These compounds were all well below the CTR-based criteria or non-detected Between May 2004 and August 2007. The maximum effluent concentration and CTR-based criterion for dibromochloromethane are 5.5 µg/L and 34 µg/L, respectively. The maximum effluent concentration and CTR-based criterion for dichlorobromomethane are 8.6 µg/L and 46 µg/L, respectively.

- C. Legal Authorities.** This Order is issued pursuant to section 402 of the federal Clean Water Act (CWA) and implementing regulations adopted by the U.S. Environmental Protection Agency (USEPA) and chapter 5.5, division 7 of the California Water Code (commencing with section 13370). It shall serve as an NPDES permit for point source discharges from this facility to surface waters. This Order also serves as Waste Discharge Requirements (WDRs) pursuant to article 4, chapter 4, division 7 of the Water Code (commencing with section 13260).
- D. Background and Rationale for Requirements.** The Regional Water Board developed the requirements in this Order based on information submitted as part of the ROWD and application, through Monitoring and Reporting Programs, and other available information. The Fact Sheet (Attachment F), which contains background information and rationale for Order requirements, is hereby incorporated into this Order and constitutes part of the Findings for this Order. Attachments A through N are also incorporated into this Order.
- E. California Environmental Quality Act (CEQA).** Under Water Code section 13389, this action to adopt an NPDES permit is exempt from the provisions of CEQA, Public Resources Code sections 21100-21177.
- F. Technology-Based Effluent Limitations.** Section 301(b) of the CWA and implementing USEPA permit regulations at section 122.44, title 40 of the Code of Federal Regulations<sup>4</sup>, require that permits include conditions meeting applicable technology-based requirements at a minimum, and any more stringent effluent limitations necessary to meet applicable water quality standards. The discharge authorized by this Order must meet minimum federal technology-based requirements based on Secondary Treatment Standards at Part 133 and Best Professional Judgment (BPJ) in accordance with Part 125, section 125.3. A detailed

<sup>4</sup> All further statutory references are to title 40 of the Code of Federal Regulations unless otherwise indicated.

discussion of the technology-based effluent limitations development is included in the Fact Sheet.

- G. Water Quality-Based Effluent Limitations.** Section 301(b) of the CWA and section 122.44(d) require that permits include limitations more stringent than applicable federal technology-based requirements where necessary to achieve applicable water quality standards. This Order contains requirements, expressed as a technology equivalence requirement, more stringent than secondary treatment requirements that are necessary to meet applicable water quality standards. The rationale for these requirements, which consist of tertiary treatment or equivalent requirements or other provisions, is discussed in Section IV.C.2 of the Fact Sheet.

Section 122.44(d)(1)(i) mandates that permits include effluent limitations for all pollutants that are or may be discharged at levels that have the reasonable potential to cause or contribute to an exceedance of a water quality standard, including numeric and narrative objectives within a standard. Where reasonable potential has been established for a pollutant, but there is no numeric criterion or objective for the pollutant, water quality-based effluent limitations (WQBELs) must be established using: (1) USEPA criteria guidance under CWA section 304(a), supplemented where necessary by other relevant information; (2) an indicator parameter for the pollutant of concern; or (3) a calculated numeric water quality criterion, such as a proposed state criterion or policy interpreting the state's narrative criterion, supplemented with other relevant information, as provided in section 122.44(d)(1)(vi).

- H. Water Quality Control Plans.** The Regional Water Board adopted a Water Quality Control Plan for the Los Angeles Region (hereinafter Basin Plan) on June 13, 1994 that designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the Basin Plan. In addition, the Basin Plan implements State Water Resources Control Board (State Water Board) Resolution No. 88-63, which established state policy that all waters, with certain exceptions, should be considered suitable or potentially suitable for municipal or domestic supply. Beneficial uses applicable to the Estuary are as follows:



**Table 5. Basin Plan Beneficial Uses**

Discharge Point	Receiving Water Name	Beneficial Use(s)
002	Santa Clara River Estuary	<u>Existing:</u> Navigation (NAV), water contact recreation (REC-1), non-contact water recreation (REC-2), commercial and sport fishing (COMM), estuarine habitat (EST), marine habitat (MAR), wildlife habitat (WILD), rare, threatened, or endangered species <sup>5</sup> (RARE), migration of aquatic organisms <sup>6</sup> (MIGR), spawning, reproduction, and/or early development <sup>5</sup> (SPWN), and wet land <sup>7</sup> (WET).
	Pacific Ocean, Nearshore <sup>8</sup>	<u>Existing:</u> IND, NAV, REC-1, REC-2, COMM, MAR, WILD, Preservation of Biological Habitats <sup>9</sup> (BIOL), RARE <sup>4</sup> , MIGR <sup>5</sup> , SPWN <sup>5</sup> , and shellfish harvesting (SHELL).

Requirements of this Order specifically implement the Basin Plan.

The 1994 Basin Plan provided water quality objectives for ammonia to protect aquatic life, in Tables 3-1 through Tables 3-4. However, those ammonia objectives were revised, based upon freshwater and saltwater criteria.

1. **Freshwater Ammonia Water Objective** – On April 25, 2002, the Regional Water Board adopted the Resolution No. 2002-011, *Amendment to the Water Quality Control Plan for the Los Angeles Region to Update the Ammonia Objectives for Inland Surface Waters (Including Enclosed Bays, Estuaries and Wetlands) with Beneficial Use Designations for Protection of Aquatic Life*. The ammonia Basin Plan amendment was approved by the State Water Board, the Office of Administrative Law, and USEPA on April 30, 2003, June 5, 2003, and June 19, 2003, respectively. Although the revised ammonia water quality objectives may be less stringent than those contained in the 1994 Basin Plan, they are still protective of aquatic life and are consistent with USEPA's 1999 ammonia criteria update.
2. **Saltwater Ammonia Water Objective** – On March 4, 2004, the Regional Water Board adopted the Resolution No. 2004-022, *Amendment to the Water Quality Control Plan for the Los Angeles Region to Update the Ammonia Objectives for Inland Surface Waters Not Characteristic of Freshwater (Including Enclosed Bays, Estuaries and Wetlands) with Beneficial Use Designations for*

<sup>5</sup> One or more rare species utilize all ocean, bays, estuaries, and coastal wetlands for foraging and/or nesting.

<sup>6</sup> Aquatic organisms utilize all bays, estuaries, lagoons and coastal wetlands, to a certain extent, for spawning and early development. This may include migration into areas, which are heavily influenced by freshwater inputs.

<sup>7</sup> Waterbodies designated as WET may have wetlands habitat associated with only a portion of the waterbody. Any regulatory action would require a detailed analysis of the area.

<sup>8</sup> Nearshore is defined as the zone bounded by the shoreline and a line 1,000 feet from the shoreline or the 30-foot depth contours, whichever is further from the shoreline.

<sup>9</sup> Areas of Special Biological Significance (along coast from Latigo Point to Laguna Point) and Big Sycamore Canyon and Abalone Cove Ecological Reserves and Point Femin Marine Life Refuge.

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